The Tennessee Advisory Commission on Intergovernmental Relations

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MEMORANDUM

TO: TACIR Commissioners

FROM: Harry A. Green
Executive Director

DATE: January 18, 2007

SUBJECT: Pole Attachment Rate Study

Dr. Reuben Kyle and Dr. Chris Klein will be presenting the final report on the pole attachment study.

Analysis of Pole Attachment Rate Issues in Tennessee

The project entails a study of SB 668/HB 1832 which addresses the issue of pole attachments by cable television and other telecommunications providers to poles owned by cooperative and municipal utilities. In summary, the bill

- Applies only to municipally or cooperatively owned utilities;
- Maintains the current system of negotiated pole attachment rate agreements;
- Caps the rate that a utility may receive for a pole attachment from a telephone or cable TV provider at the rate set by the Federal Communications Commission (FCC) for investor-owned utilities;
- Prohibits in-kind payments as a condition for attaching to poles; and
- Requires utilities to provide access to poles and conduits to any requesting telephone or cable TV provider as long as such access is technically feasible.

The Communications Act of 1934, Section 224, as amended by the Telecommunications Act of 1996 governs pole attachments. The following definitions and provisions of the amended Act are available on the FCC website, http://www.fcc.gov/eb/mdrd/rules/pole.html.

61 FR 45618, Aug. 29, 1996, Sec. 1.1402 Definitions.

(a) The term utility means any person that is a local exchange carrier or an electric, gas, water, steam, or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications. Such term does not include any railroad, any person that is cooperatively organized, or any person owned by the Federal Government or any State. [Emphasis added.]

(b) The term pole attachment means any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility.

For the purposes of dealing with municipal electric providers and cooperatives the relevant law is 47 USC § 253.

§253. Removal of barriers to entry

(a) In general
No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

(b) State regulatory authority
Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.

(c) State and local government authority
Nothing in this section affects the authority of a State or local government to manage the public rights-of-way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of public rights-of-way on a nondiscriminatory basis, if the compensation required is publicly disclosed by such government.

[http://www.law.cornell.edu/uscode/, retrieved 12/7/2006]

A review of the case law of pole attachment regulation is beyond the scope of this study. The basic policies are:

- Pole attachments to poles owned by cooperatives and municipal service providers are not subject to FCC regulation and thus pole attachment rates are not required to conform to the FCC formula.
- Municipal and cooperative-owners of poles must provide access to their poles by telecommunications, cable, and Internet service providers.
- The rates charged by pole owners must be “fair and reasonable”, publicly available, and set on a competitively neutral, nondiscriminatory basis.

- The FCC provides guidelines and a formula for determining pole attachment rates for investor-owned utilities, but permits states to adopt their own regulations.

At present 18 states have elected to provide regulatory procedures for investor-owned utilities, Tennessee has not done so.

Among the 50 states and the District of Columbia Tennessee is exceptional in the extent to which electric power, and hence the largest share of utility pole ownership, is provided by municipal electric utilities and electric cooperatives. Only Nebraska compares with Tennessee in this regard.

a. Current and past pole attachment rates in Tennessee.

The tables below provide average rates charged for pole attachments by groups of pole owners and average rates paid by groups of pole users. The rates reported by each will not match exactly since the reporting entities do not match exactly. The intent is to afford pole owners and pole users the opportunity to report on their own experiences.

Average Pole Attachment Rates per Industry Group

Telephone Attachments
Rates Charged

Reporting Organization	1990		2000		2005/06	
Tennessee Municipal Electric Power Association	$11.81		$18.22		$21.81	
Average Annual Percentage Change	1990-2000		2000-2005		1990-2005	
	4.4%		3.7%		4.2%	
Tennessee Electric Cooperative Association	Rural $6.46	Urban $12.26	Rural $12.34	Urban $17.44	Rural $15.71	Urban $20.95
Average Annual Percentage Change	1990-2000		2000-2005		1990-2005	
	3.6%	6.7%	3.7%	4.9%	3.6%	6.1%

Telephone Attachments
Rates Paid

Reporting Organization	1990	2000	2005/06
Tennessee Telephone Cooperative Association	$2.75 to $7.17	$6.63 to $13.07	$7.72 to $17.05
Average Annual Percentage Change	**1990-2000**	**2000-2005**	**1990-2005**
	6.5%	5.4%	5.8%
EMBARQ			$36.02

Cable Attachments
Rates Charged

Reporting Organization	1990	2000	2005/06
Tennessee Municipal Electric Power Association	$6.61	$10.10	$13.74
Average Annual Percentage Change	**1990-2000**	**2000-2005**	**1990-2005**
	4.3%	6.4%	5.0%
Tennessee Electric Cooperative Association	$5.67	$8.80	$11.63
Average Annual Percentage Change	**1990-2000**	**2000-2005**	**1990-2005**
	4.5%	5.7%	4.9%

Cable Attachments
Rates Paid

Reporting Organization	1990	2000	2005/06
Tennessee Cable Television Association		$11.24 for 153 cable operations in 2003	$8.79 for 81 cable operations in 2004/05
Average Annual Percentage Change	**2003-2004/05**		
	12.5%*		
Time Warner			$7.70

*Of 153 reporting cable operations, 27 reported no change. The mean change for the 50 that did report changes was 12.5%. Thus the actual mean for the 77 operations that reported pole attachment rates would be substantially less than 12.5%. The geometric mean which is the appropriate measure of an average of ratios or percentages cannot include zero values.

- The Tennessee Electric Cooperative Association (TECA) provided charged rates by member cooperatives for 1990, 2000, and 2006. These data show that average rates increased over the period by 142% for rural telephone attachments, 70.9% for urban telephone attachments, and 105% for cable TV attachments.
- The Tennessee Municipal Electric Power Association (TMEPA) provided rates by member agency for 1990, 2000, 2006 with pole counts for 2003. These data are difficult to interpret because different numbers of utilities are reported for each of the years. It appears that average rates for telephone attachments generally increased by 34% (rural) to 47% (urban) between 1990 and 2000, and then increased an additional 3.7% (rural) to 19.9% (urban) from 2000 to 2005. CATV attachment rates rose 30% (rural) to 46.5% (urban) over 1990-2000 and an additional 30% (rural) and 25% (urban) over 2000-2005.
- The Tennessee Cable Television Association (TCTA) provided data on pole attachment rates paid by cable providers across Tennessee for 2003 and 2005, but these data also suffer from changes in the number of CATV providers participating. Average rates varied from $8.79 to $11.24 per pole.
- The Tennessee Telephone Cooperative Association (TTCA) provided data for five telephone cooperatives. The data show that rates increased 6.5% annually over the period 1990-2000, 5.4% for 2000-2005, and 5.8% for the whole period 1990-2005.
- EMBARQ, a local telecommunications service company, provided pole attachment data paid to providers, and received from other service providers in Tennessee, Virginia, South and North Carolina. In these data, Tennessee's rates ($36.02 - $47.41) are similar to those in North Carolina ($23.12 - $52.85) and Virginia ($28.94 - $35.77), but higher than South Carolina ($4.18 - $3.05).
- Time Warner also provided rate data from a number of states. The mean rates per state show Tennessee ($7.70) in the middle of the pack compared to Florida ($9.83) and North Carolina ($4.86 - $13.64).
- <u>The conclusion is that pole attachment rates vary widely across Tennessee and in other states. Rates in Tennessee correspond to rates charged — and paid — in other states though no national averages are available.</u>

b. Costs of installing and maintaining poles

On August 23, 2006, pole cost data was provided by TVA on electric co-op (TECA) pole investment. These data are quite comprehensive, indicating that pole attachment related costs increased by 137% to 161% from 1990 to 2005. The costs reported here are the bases for rates charged for pole attachments by all pole owners, regardless of whether they are for-profit, co-operatives, or municipal entities. As a result, the cost data provided below should indicate any trend in pole attachment rates.

Plant and Equipment Cost for Tennessee Electric Cooperative Association
(*in millions of dollars*)

Account	Median Cost 1990	Median Cost 2000	Median Cost 2005	Changes 1990-2000	Changes 2000-2005	Changes 1990-2005
Gross Plant & Equipment	$34.9	$66	$89	96%	32%	161%
Poles, Towers & Fixtures, Acct. 364	$8.8	$16.8	$23	83.6%	28%	137%
Maintenance of Overhead Lines, Acct. 593	$ 0.667	$1.78	$2	111%		170%

The Tennessee Municipal Electric Power Association (TMEPA) provided capital costs per pole and annual costs per pole. These data indicate that mean net annual costs per pole increased by 30% over the 2000-2005 period.

Pole Costs for Tennessee Municipal Electric Power Association, Costs per Pole

	1990	2000	2005/06	Percent change 1990-2000	Percent change 2000-2005	Percent change in annual cost, 1990-2005
Number of Members Reporting	36	58	56			
Number of Poles per Reporting Member	23,249	22,385	24,512	-3.7%	+9.5%	
Weighted Mean Pole Cost	$274.26	$251.51	$308.16	-8.3%	+22.5%	
Weighted Mean Annual Cost per Pole	$77.67	$82.08	$102.22	5.7%	24.5%	1.8% annual average

c. How do other states set rates?

Pursuant to Section 1.1414(b) of the Federal Communication Commission's (FCC) rules on cable pole attachments, the following states have certified that they regulate rates, terms, and conditions for pole attachments, and, in so regulating, have the authority to consider and do consider the interests of subscribers of cable television services, as well as the interests of the consumers of utility services. Moreover, these states have certified that they have issued and made effective rules and regulations implementing their

regulatory authority over pole attachments, including a specific methodology for such regulation which has been made publicly available in the state.

Certification by a state preempts the FCC from accepting pole attachment complaints under Subpart J of Part 1 of the Rules.

States* That Have Certified That They Regulate Pole Attachments

Alaska	Massachusetts
California	Michigan
Connecticut	New Jersey
Delaware	New York
District of Columbia	Ohio
Idaho	Oregon
Illinois	Utah
Kentucky	Vermont
Louisiana	Washington
Maine	

* "state" by Section 1.1402(g) of the Rules, means any state, territory, or possession of the United States, the District of Columbia, or any political subdivision, agency, or instrumentality thereof.
This Public Notice supersedes the Public Notice of December 30, 1987, DA No. 87-1862.
Source: http://www.fcc.gov/

All of the above listed states have private power distributors and are not generally comparable to Tennessee. See Appendix A, “Examples of the Approaches Employed by States That Regulate Pole Attachment Rates.”

- A 1999 analysis by the National Association of Regulatory Utility Commissioners (NARUC) found that telephone company rates for pole attachments averaged $6.00 in states that regulated these rates compared to $3.12 in states where rates were regulated by the FCC. A comparison for electric utilities showed rates of $7.85 for “self-regulating” states compared to $4.02 where rates were regulated by the FCC. The report entitled “Pole Attachments,” by the Ad Hoc Group of the 706 Federal/State Joint Conference on Advanced Services provides the results of a national survey of pole attachment rates for 1997 and 1999.
- A 2003 report by the Oregon Public Utility Commission points to the fact that the debate in Tennessee is hardly unique. The report is titled “The Battle for the Utility Pole and the End User.”
- The EMBARQ data gives actual rates paid and received by the company in several states neighboring Tennessee. They also report that in Florida where they serve 2 million customers and have attachments on 265,000 power company poles that the rates range from $5.00 to $32.97 with a mean of $22.70.
- Here again, the data show that there is great variability in the rates but that rates charged in Tennessee are not necessarily out of line with those in other states.

d. Will lower rates encourage cable and internet utilization?

We can roughly define the bounds of the question by examining the potential effect on individual subscriber prices of, say, a $10.00 per year change in pole attachment rates. The potential effect on an individual subscriber depends on the number of subscribers per pole. For cable TV providers, this ranges from over 20 to less than 0.1 subscribers per pole. For providers with 2 or more subscribers per pole, the $10.00 difference in pole attachment rates equates to less than $0.50 per subscriber per month. This seems unlikely to radically affect utilization. On the other hand, for providers with 0.8 down to 0.2 subscribers per pole, the $10.00 change in pole attachment rates suggests changes of $1.00 to over $4.00 per subscriber per month. At least the higher end of this range seems substantial enough to significantly affect utilization. A total of 84,754 subscribers fall in this range.

At a meeting on November 16, 2006, CATV representatives indicated that attachment rates of approximately $20.00 per pole made providing CATV service uneconomical in areas with fewer than 20 subscribers per mile.

As there are typically 20-30 poles per mile, this implies a subscriber-pole ratio ranging from 0.67 to 1.0 and a pole cost per subscriber of $1.67 to $2.49 per month. This cost represents 3.3% to 6.2% of the typical $40-$50 per month fee for CATV service.

In rural areas of only 5 subscribers per mile, the pole cost per subscriber rises as high as $10.00 per subscriber per month or 20% to 25% of the monthly fee.

CATV representatives suggested that at the FCC pole attachment rate of approximately $5.00 per year, service to low density areas became economical and upgrades to high-speed Internet and telecommunications services become viable. The pole cost per subscriber in this case declines to $2.50 per month or less.

e. Are there other ways to promote access?

- The FCC has encouraged the expansion of broadband services by setting a differential between the rates charged telecommunications providers and those charged cable TV providers. One consequence of this differential is to raise competitive equity issues now that both types of providers offer similar services.
- Individual communities around the U.S. have installed publicly owned broadband systems.
- A new technology that allows the provision of broadband services over electric power lines has recently become available. Implementation of such technology would make telecommunications and broadband services available to any location receiving electricity service. See NARUC's "Report of the Broadband Over Power Lines Taskforce,"

February, 2006. The first services using this technology were offered in 2004. Utilities have been reluctant to offer the service, however, because of the low quality (speed) of the service and because most potential customers already subscribe to a higher quality (faster) service provided by cable TV and telecommunications companies.

- Another relatively new technology delivers broadband services over wireless telecommunications networks. This service is just starting to be offered in urban areas in Tennessee. Such a service requires minimal pole attachments since "the last mile" to reach consumers is covered without the use of wires.
- Targeted subsidies have also been suggested as a method for encouraging consumers to purchase telecommunications and broadband services. These may take the form of explicit payments or vouchers to consumers matching the required conditions (such as low-income and/or rural location) for the purpose of paying for broadband or other telecommunications services.
- Other subsidy programs, such as the telecommunications High Cost Fund administered by the FCC, provide subsidies directly to service providers in high cost areas.

f. Review FCC pole attachment formula and compare with current rates

The FCC formula and the methods used by Tennessee pole owners appear to be similar but, in fact, contain significant differences in the details of application.

The FCC formula for telecommunications service providers is

Max rate = [Space Factor] x [Net Cost of Pole] x [Carrying Charge Rate]

Where the Space Factor is

[(space occupied) + (2/3) (unusable space)/ (number of attachers)]/ (pole height)

On a typical pole, the space factor amounts to 16.9%, so the maximum annual rate is 16.9% of the annual net pole cost.

The FCC formula for cable TV without telecommunications services is

Max rate = [Space Factor] x [Net Cost of Pole] x [Carrying Charge Rate]

Where the Space Factor is

[space occupied]/ [total usable space]

On a typical pole, the space factor amounts to 7.4%, so the maximum annual rate is 7.4% of the annual net pole cost.

One method termed “full-cost” proposed by some electric utilities is

Max rate = [Space Factor] x [Net Cost of Pole] x [Carrying Charge Rate]

Where the Space Factor is

> [(space occupied) + (1/2) safety space + (1/3) unusable space]/ (pole height)

On a typical pole, the space factor comes to 28.4%, so the maximum annual rate is 28.4% of the annual net pole cost.

See “Comparison of Space Allocations,” provided by TMEPA.

TMEPA argues that the proper annual “full-cost” rate for 3 attaching parties (Electric + 2) came to approximately $26.50 per attachment in 2003 compared to its members’ weighted average rates of $12.52 for cable TV and $18.50 for telecommunications. The comparable FCC formula rates are $5.89 for cable and $13.48 for telecom. The “full cost” formula above yields an annual rate of $22.58. See TMEPA materials dated July 2, 2003 and addressed to the Honorable Tommy Head and the Honorable Charles Curtiss.

g. Should Tennessee regulate pole attachment rates?

As there is no single theoretically ideal rate or rate setting method applicable to pole attachments, we do not recommend any particular regulation of that rate. We do offer several options below, all of which have some drawbacks.

Much economic theory and policy analysis of rate setting methods deal with the problem of setting prices for a multi-product utility such that the resulting revenues equal the costs, including the cost of capital. This is the fundamental problem facing regulators of investor-owned utilities, but is not directly applicable here as our concern is only the price of one item, pole attachments, for non-investor-owned utilities. One strand of this literature, however, does have applicability. That strand is concerned with the conditions under which prices are subsidy-free. Both pole-users and pole-owners have expressed some fear that one may be subsidizing the other if pole attachment rates are not set appropriately.

Unfortunately, subsidy-free prices cover a very wide range of dollar values. The Economics literature (Brown & Sibley) has established that any price above marginal cost and less than the stand alone cost of a product or service is subsidy free. Marginal cost in our case consists of the additional costs born by the pole owner when one more attachment is added to a pole. These costs are very low, although difficult to estimate precisely, and likely fall below the current FCC cable attachment rate (approximately $4.00-

$6.00 per pole per year). The stand-alone costs of a pole include all the costs of installing and maintaining a pole, currently in the area of $70.00 per pole per year or higher. The resulting range of subsidy-free prices includes all the current pole attachment rates in Tennessee as well as all the rates suggested by any of the affected parties.

Beyond the comfort that no party to pole attachment transactions is subsidizing another, the concept of subsidy-free prices yields little benefit. How is one to choose an appropriate price or rate within the very broad range of subsidy-free values? We suggest that the public interest guide that choice. The resulting policy analysis may not yield an exact answer to the question, but may narrow the issues so that an informed judgment may be made on an appropriate course of action. It will inevitably be a judgment over which reasonable people could (and likely will) disagree.

In this context, it seems obvious that the public interest is best served by providing cable TV, telecommunications, and electricity services to as many Tennessee consumers as is practical. As these services all confer positive externalities on society in general – all, for instance, may enhance education, producing a more productive workforce and greater economic activity in the State, leading to higher incomes for all Tennesseans – the public interest may be served by subsidizing the consumption or provision of these services. A subsidy is most appropriate, however, only if some significant number of consumers will find a service too expensive at rates that cover all of a provider's costs. Could pole attachment rates cause some consumers to forego services using those poles?

The only example encountered in the course of this study is the possibility that high pole attachment rates could cause cable TV providers either to withdraw service from some rural areas, or fail to upgrade their service to offer Internet services, including telephone-like services (voice over Internet protocol or VOIP), or both.

There are several possible solutions to this problem:

1. Do nothing

   Current rates are negotiated between the attachers and the pole owners. Pole owners, however, often have monopoly power over the pole rate up to the stand alone cost of the pole. Consequently, if the pole attachers have nothing to offer the pole owners to aid in bargaining, there is no guarantee that rates will not continue to escalate. Broadband and cable TV services may be jeopardized in rural areas as a result. Consumers who buy all three services could pay for the "same" pole multiple times. On the other hand, when attachers also own poles such that reciprocal attachment agreements can be worked out, negotiations seem to function relatively well. BellSouth, for example, has such agreements with electricity distributors in Tennessee.

2. Legislate a rate or rate formula

   A single or multi-level legislated pole attachment rate would be inflexible and unresponsive to changing conditions including costs, inflation, and technological change. A rate formula could be tied to costs, but would not respond to technological changes. Some method for resolving disputes over the inputs to or application of the formula would also be needed.

3. Regulate the rate, such as TRA now regulates investor-owned rates

   Rate-setting proceedings will be highly detailed, contentious, expensive and time-consuming – especially for entities not now subject to that form of regulation. Regulation would likely make the entire process of pole access and rate-setting more litigious. New York is currently revising its rules for setting pole attachment rates for just this reason. In addition, a mechanism such as a tax or user fee to provide for the expense of operating a regulatory system. For example, the TRA's current regulatory activity is supported by a utility fee imposed on the regulated entities and ultimately paid by consumers. See Appendix A.

4. Allow negotiated rates capped using a formula based on cost

   Rates will respond to cost changes, but escalation of rates beyond the cap is prevented. Restriction of service availability will be forestalled if the cap and its formula are appropriate. Parties could still disagree over cost calculations and other contract provisions, necessitating some method of either regulation or dispute resolution. Also, the "cap" may, in effect, become the rate, especially if attachers lack bargaining power.

5. Adopt an alternative for dispute resolution

   Options here include the courts, arbitration, or mediation. SB 668/HB 1832 allow telecommunications and cable TV providers to file suit in chancery court. The FCC encourages the use of mediation and has a mediation program. The TRA has served as arbitrator of interconnection disputes among telecommunications providers under the federal Telecommunications Act of 1996.

   Note, however, that the pole attachment revenue that pole owners receive is over-and-above that received from the services they provide to end-use customers. In addition, pole owners will need the poles to service their existing and future end-use customers, regardless of whoever does or does not attach to them. In this way, the pole attachment rate will not influence the availability of poles which pole owners place to serve end-use customers.

In fact, pole attachment revenues do not increase pole owners' revenues in the long run. TVA under its contracts acts as the regulator for municipal and cooperative distributors, much as the TRA regulates investor owned utilities in Tennessee. TVA periodically reviews the revenues and costs of

its distributors and sets end-user rates so that the distributors "break even". Any new revenue sources, such as pole attachments, will be accounted for in this process. To the extent this leads to "excessive" revenues for distributors, other rates will be reduced to bring revenues in total back in line with costs. Higher pole attachments revenues may contribute to lower prices for a distributor's other end-user customers, but will not increase a distributor's revenues in the end. Conversely, if pole attachment revenues fall, then eventually rates to distributors' end-use customers must rise.

The distributors' end-use customers, of course, are also end-use customers for the cable and telecommunications providers who are paying the pole attachment rates. If cable and telecom rates rise due to rising pole attachments rates, then those same users could see their electric rates fall. The net effect on end-user customers may be nil, unless the pole attachment rate causes some providers to withdraw service from or otherwise fail to serve some areas.

For pole users, attaching to existing poles allows them to avoid the stand-alone cost of a pole as well as to provide their services in areas that would otherwise be uneconomic. The potential bargaining range for negotiated rates among pole owners and pole users is the same as the range of subsidy-free prices: from the marginal cost of another attachment to the stand-alone cost of a pole. Both parties gain by a rate between these extremes.

From the point of view of society in general, the sharing of poles is desirable. The alternative of multiple sets of poles, using multiples of the resources required for one set, is obviously inefficient. The actual rate for pole attachments that is best for society is not so clear. Ideally, the rate would be subsidy-free and not so high as to preclude some customers from receiving any pole-using services.

Brown, Stephen J. and David S. Sibley. (1986) The Theory of Public Utility Pricing. Cambridge: Cambridge University Press.

h. Examine methods of determining pole attachment rates.

Most methods for calculating pole attachment rates are based on the annual cost (or carrying charge) of a pole and the proportion of the attaching space on the pole occupied by an attachment. Some, such as the FCC method, use different formulas based on the services provided by the attaching party. While favoring CATV attachments may have made sense in the early developmental days of the industry, such a policy is less sensible today. Both telecommunications and cable providers are capable of offering similar sets of services. The party receiving the lower attachment rate gains a competitive advantage over rival providers. For this reason, strictly cost-based calculations are preferable in today's environment. See Appendix B, "Methods for Determining Pole Attachment Rates by Tennessee Pole Owners."

i. In-kind payment issues.

The material in the following four sections comes from surveys taken by industry representatives and from interviews with industry representatives. A great deal of material was collected not all of which is provided here. But the views and concerns expressed by almost all parties are represented in the material below.

Survey Question: Has your cooperative/municipal electric system ever requested "in-kind" compensation from companies attaching to your poles?

Responses: *Tennessee Electric Cooperative Association*
No: 20 Yes: 0

Tennessee Municipal Electric Power Association
No: 35 Yes: 4 (plus one under negotiation)

Comments: *Tennessee Municipal Electric Power Association*

"While these types of agreements are not widespread, TMEPA submits that in-kind services can be an appropriate component of compensation from pole users. In fact, we understand that, in at least some cases, the pole user actually suggested the in-kind compensation to the pole owner in the first place." (TMEPA Memorandum Dated July 21, 2006)

j. Untimely transfers.

Tennessee Cable Telecommunications Association

- In a November 16, 2006 meeting with several representatives of TCTA, strong feelings were expressed regarding poor communications between pole owners and users.
- Among other concerns was the requirement that a user may held responsible for notifying other users of changes made by the pole owner.
- The result of the requirement that the cable provider making changes notify not only the pole owner but the next attaching party "would pass the liability onto the attaching parities, especially cable."
- "The amount of pole transfers per year." [This comment apparently represents a complaint regarding the number of pole transfers required.]
- "Sometimes the information is incomplete…[regarding] pole location. Most of our issues arrive from other utilities not moving in a timely manner, thus not allowing us [to] move in conjunction with the pole owner request."

- "Often inaccurate information on which/where poles are located. Most utilities have a time frame in which poles are required to be transferred or face penalty. The problem is the information they provide is often sketchy at best with no cross-streets, addresses, pole numbers, etc."

Survey Question: Other issues involving untimely transfers.

Responses: (Sampled responses below.)

Tennessee Municipal Electric Power Association

- Cable installers are careless and do poor work, re: anchor, guying, easements, etc.
- Liability of leaving old pole in place for extended time waiting for transfer.
- Crews must make at least two trips on any job with attachments. If delayed, it means we make numerous trips to see if the transfer is made. The inspections are normally by a single person, not a crew.
- Complaints from members occur often about an old pole section still beside the new pole making it displeasing to look at.
- TDOT projects require all utilities to be relocated in a timely manner or face serious financial consequences. Failure by CATV and phone to transfer could potentially result in loss of compensation on large projects. Failure of phone and/or cable to transfer is a common source of customer complaints. There are literally hundreds of locations on our system where new poles have been installed, some for years, with the old pole still standing with either phone or cable attached.
- A major complaint by users is the lack of two-way communication and cooperation between pole owners and users.

Tennessee Telephone Cooperative Association

- "Contractors for [pole owner] change out power pole and tie off [telephone co-op] lines and does not notify [the co-op] about this."
- "[Pole owner] setting poles in [co-op's] pole line, but setting them out of line where nothing will reach back for [the co-op]. Some of these are very large cables to work with, not just heavy, but with large pair counts which makes them very expensive to piece out."
- "Lots of labor and money could be saved if work could be coordinated more closely with one another in engineering departments. We find out about power company projects after the work has been done. We need closer and better coordination with all power providers."
- "Most commonly a failure by pole owners to contact us following pole transfers."

k. Other issues related to pole attachments.

Survey Question: Has your cooperative experienced damage to poles from CATV or telephone attachments? Please describe.

Responses: (Sampled responses below.)

- Most damage comes from improper guying – Our most prevalent issue is attaching entity not meeting NESC clearances with attachment.
- Yes, the attachment is the lowest wire so the majority of incidents of vehicles, equipment, or hitting a wire involves the attachment, not our (electric) wire. Many times this results in a broken pole.
- Yes; cable not providing enough clearance. Tall equipment on trucks catches it and pulls our poles and lines down.
- Yes, this happens with both CATV & Telephone. The messenger wire is pulled tight during installation before their guys are properly installed which causes poles to lean or bow and causes conductor sag problems.
- Cable and phone company guying and anchoring typically leaves much to be desired. Insufficient guy leads are common, as is the absence of anchors entirely in many cases. Attaching entities routinely pull their cables too tight, and when combined with insufficient guying, this causes bowing of the poles.

Tennessee Cable Telecommunications Association

- Cable providers complain of a lack of communication between pole owners and cable service providers over safety issues. Alleged safety violations are not identified in a timely fashion with the result that the pole owner demands unreasonable number of corrections in a short period of time. The pole owner "failed to provide any proof that [the cable operator] had caused any violations."
- Safety violations by the attacher are alleged when the pole owner has made adjustments to their own equipment that resulted in the cable provider's attachment being in violation.

Survey Question: If you would like to provide any additional information regarding pole attachment issues, please explain.

Responses: (Sampled responses below.)

Tennessee Electric Cooperative Association

- Lack of notification on expansion by attaching entity – the "make ready" process is not used as it was in the beginning.
- Our poles are sometimes used as a "dip" pole by CATV thus using 20 to 30 feet of a pole rather than one foot. Also, their power boosters are located on our poles.
- Notified when they attach. Unattached guys. Pole climbing is harder to do. Weakens poles.

Tennessee Municipal Electric Power Association

TMEPA did not report results of a survey on this issue but did state

- that their member systems "routinely find that pole users have made unauthorized attachments without obtaining appropriate approvals…" However, they also note that older contracts do not always require prior approval of attachments.
- "From a financial standpoint, it is often very difficult to determine when a pole user made an unauthorized attachment and, short of litigation, our systems often have difficulty recovering pole attachment fees for the authorized uses."
- "Perhaps more importantly, our systems also often report considerable difficulty in requiring pole users to transfer their facilities to a newly installed or relocated pole. This results in operational inefficiencies and added costs for our systems, delays in relocation projects, and — in extreme cases — safety concerns for the public at large."

Tennessee Cable Telecommunications Association

- Cable operations express strong frustration over the lack of transparency in rate setting and the lack of any sort of appeal process.
- Rates have increased substantially with no explanation or apparent cost basis.
- Agreements are often "thoroughly and completely one-sided" for the pole owner.
- Requests for the opportunity to discuss agreements are sometimes ignored by municipal and cooperative agencies and even by their governing bodies. The result is anger and frustration on the part of cable service providers.
- On some occasions cable customers are denied the opportunity to receive upgraded cable service due to the lack of cooperation between the cable operator and pole owners.
- "The pole attachment application requires onerous and unnecessary information and essentially requires the cable company to hire an engineer."
- "Overlashing is considered a separate attachment in contradiction to federal law."

l. Right-of-way issues.

Tennessee Electric Cooperative Association

Survey Question: What percentage of your system's poles are on public rights-of-way?

Responses: Number of Responses: 18
More than 50%: 7
Less than 15%: 5

Survey Question: Do you require attaching companies to obtain their own easements from landowners?

Responses: Number of Responses: 17
No: 3 Yes: 14

Survey Question: Total annual right-of-way clearing expenses (from most recent year), including contractors.

Responses: Number of Responses: 17
$23.35 million or mean of $1.37 million

Tennessee Municipal Electric Power Association

TMEPA members do not track information regarding the number of poles located on public rights of way. They estimate that in urban locations the percentage of such poles may approach 95% while in rural locations it would be lower. Their methods of calculating pole attachment costs includes a component for operating expenses but does not include any costs associated with purchase of easement rights.

Tennessee Cable Telecommunications Association

Several cable operators stated that they would prefer to set their own poles if it were not impractical to have multiple poles along a right-of-way.

Tennessee Telephone Cooperative Association

"[The co-op] has signed documents assuming ownership of poles abandoned by [the original pole owner], only to be told by an angry property owner that [the original owner] had promised the old pole to the land owner."

m. What entity, if any, should regulate pole attachments?

Of the existing state agencies and regulatory bodies, the Tennessee Regulatory Authority (TRA) is most familiar with the cost and rate setting issues encountered here. The TRA also has experience at arbitrating disputes among competing telecommunications providers under the federal Telecommunications Act of 1996. TRA proceedings can be litigious and time consuming, however, and for this reason we do not recommend specific regulation of the industry at this time. Further, a funding mechanism such as a fee of tax would be necessary to fund any regulatory activity.

n. Specific recommendation on proposed bill.

No specific recommendations on the bills are suggested here, although several options are offered in the following section.

o. Any other recommendations?

The following options and insights are offered as a guide:

- Legislation should not establish a fixed rate for pole attachments.
- Any rate or cap formula should be strictly cost-based and non-discriminatory, preferably reflecting the relative amount of available space occupied by an attachment.
- Burdensome regulation should be avoided.
- Open communication among pole owners and pole users should be encouraged.
- One or more methods for dispute resolution should be available.

Other suggestions from various parties that may have merit in implementing the above include the following. These could be incorporated into pole attachment contracts without explicit legislation.

1. Set period, such as 90 days, for negotiating rates, terms and conditions. This presumes advance notice to pole licensees of proposed changes in rates, terms, and conditions by pole owners.
2. If contract negotiations fail, then pole owners should notify pole users of the opportunity to appear before local governing boards.
3. No in-kind payments such as dedicated fiber capacity.
4. Non-discriminatory charges should apply to all pole users, including affiliates of the pole owner.
5. No limitations on the kinds of services that pole licensees can offer.
6. Timely processing of attachment applications (such as 30 days).
7. Make-ready work and non-emergency transfers completed within set period of either permit application or notification by pole owners (such as 60 days).
8. Over-lashing allowed on reasonable notice.
9. Pole owners and users should attempt to coordinate pole inventories and inspections to identify unauthorized attachments and to correct safety violations.
10. Analogous rates, terms and conditions should apply to conduit.

Appendix A
Examples of the Approaches Employed by States That Regulate Pole Attachment Rates

Below are examples of the pole attachment regulations of a few of the 18 states which currently set their own regulations rather than adopt the FCC formula for pole attachment rates. (http://www.fcc.gov/eb/mdrd/PoleAtt.html) The reader should keep in mind that except where noted the pole owners are investor-owned companies, not municipal or cooperative organizations which are typically the case in Tennessee.

1. **Alaska**

   Formula:
   Rate = (attaching utility's occupied space / total usable space) x net investment x carrying charge ratio

Net investment	Pole-owning utility's average net investment per pole (gross pole investment less associated depreciation reserve, divided by the number of poles).
Occupied space	May be determined from studies performed by the utilities. In the absence of "acceptable" studies, it is defined as 1 foot.
Total usable space	May be determined from studies performed by the utilities. In the absence of "acceptable" studies, it is defined as 13.5 feet.

   Notes:
   a. Utilities are not required to use the rate formula; pole owners and attachers may establish separate terms by agreement.
   b. As of March 2002, the regulations only governed CATV attachments to poles owned by electric or telephone utilities. The more general language used above comes from a notice of proposed rulemaking by the Regulatory Commission of Alaska to apply the regulations to attachments by "any entity" to the poles of "any pole owning utility."

2. **Kentucky**
   Source: Kentucky Public Service Commission, Order in Administrative Case No. 251 (August 12, 1982)

   Formula:
   The embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of CATV attachment x the annual carrying charge, x the percentage of usable space wed for CATV pole attachments

Note:

Due to the complexity of the Kentucky regulations, a synopsis is tantamount to the whole. Thus, the decision is in Appendix C.

3. **Louisiana**

Source: Louisiana Public Service Commission, Order No. U-14325, and Appendix A, U-14325A (October 31, 1980)

Formula:

(Occupied Space / Usable Space) x Net cost of a bare pole x Carrying Charges

– or –

(2 / 13.5) x Net cost of a bare pole x Carrying Charges

Usable Space	The space above the minimum grade level which can be used for the attachment of wires, cables, and associated equipment. Assumed to be 13.5 feet in the absence of a different calculation.
Carrying Charges	Calculated by expressing maintenance expense, depreciation, administrative expense, taxes, and return on investment as a percentage of gross plant or gross pole investment.
Occupied Space	Allocated as 2 feet unless calculated differently.

Note:

The portion of the "usable space" not used by either utility as "occupied space" amounts to some 6 feet and can be considered "work space" or "safety space". The Louisiana Public Service Commission takes the position that a portion of this space should be allocated to the attaching telephone company in calculating rental charges.

4. **Maine**

Source: Maine Public Utilities Commission

Maine's regulations specifies a general formula, but defines terms of the formula depending on the type of attachment (electric, cable, telephone), the number of attachers, and the combination of attachments.

Rate Formula:

The per pole rate or responsibility requirement for each attacher, applicable to all joint-use poles, including both standard and taller poles.

Rate (or responsibility) = Per Pole Cost of Service x Percent Allocation

Per Pole Cost of Service

The per pole cost of service is the sum of allowable investments, cost of capital, and allowable costs and revenues.

Percent Allocation

General Formula:
Overall Allocation Percentage = (Assigned Space + Allocation of Common Space)/Length of Pole

Assigned Space	
Electric Utility Space	4 ft. (plus ½ ft. of "neutral zone")
Telephone Utility Space	2 ft.
Cable Television Space	1 ft.
Standard Allocation of Common Space	
On a standard 35-foot pole used by three attachers	Electric: 41% Telephone: 34% CATV: 25%
On a standard 35-foot pole used by an electric utility and a telephone utility	Electric: 55% Telephone: 45%
On a standard 35-foot pole used by an electric utility and a cable television system	Electric: 62% CATV: 38%
On a standard 30-foot pole used by a telephone utility and a cable television system	Telephone: 57% CATV: 43%

5. **Michigan**

Michigan presents a unique case in that it *does not* regulate attachment rates when the attaching party is a *utility*.

Michigan Code (MCL 460.6g) provides (in relevant part):

> (a) "Attaching parties" means any person, firm, corporation, partnership, or cooperatively organized association, *other than a utility or a municipality*, which seeks to construct attachments upon, along, under, or across public ways for private rights-of-way. . . .
>
> (d) "Utility" means any public utility subject to the regulation and control of the Commission that owns or operates, or shares ownership or control of poles, ducts, or conduits used or useful in whole or in part for supporting or enclosing wires, cables, or other facilities or apparatus for the transmission of writing, signs, signals, pictures, sounds or other forms of intelligence, or for the transmission of electricity for light, heat, or power.

The Michigan Public Service Commission has held that this precludes regulation of attachment rates when the attaching party is a utility, and that rates must therefore be determined through private contractual agreement.

This view was reaffirmed in 1995 in Case No. U-14038 (*In The Matter Of The Complaint Of McLeodUSA Telecommunications Services, Inc., Against The Detroit Edison Company Regarding The Terms And Conditions Of Occupation Of Space Upon Utility Poles*).

For attaching parties within the definition provided, MCL 460.6g(d)(2) provides that "[t]he commission shall regulate the rates, terms, and conditions of attachments by attaching parties…" In 1986, the Commission set the pole rental rate for these attachers at $4.95 per pole, with periodic rate adjustments to occur.

6. **New York**

The Public Service Commission adopted the FCC's methodology of rate determination:

> Under Public Service Law § 119-a, the Commission shall prescribe just and reasonable rates, terms and conditions for attachments to utility poles. The Commission adopted the federal approach to pole attachment rates in 1997 [in Opinion No. 97-10], while retaining its primary jurisdiction over pole attachments.
>
> [*Order Granting In Part Petition Of Insite Solutions, LLC*, issued and effective September 30, 2005]

However, the Commission is currently (as of November 21, 2006) considering whether to adopt different regulations for municipal power companies:

> The Commission is considering allowing municipal electric companies to charge pole attachment rates at the lower range currently in effect for investor-owned electric utilities (approximately $10.98), as set out in Case 04-E-1471, Order Granting, In Part, Petition for Rehearing (Issued November 17, 2006). Rates set by municipalities at or below that rate would be presumed to be just and reasonable and would be adopted in the absence of a showing that a different rate is more appropriate for a particular municipality.
>
> Comments are sought on whether this approach is reasonable or whether an alternative approach is desirable in view of the relatively small amount of revenue municipalities receive from pole attachments. The FCC cable pole attachment formula requires a variety of cost allocations that, it appears, are not cost-effective to apply in setting municipal pole attachment rates. The relatively inconsequential level of revenues, compared to the cost of a formal cost allocation study, filing, verification and possible dispute resolution needed to apply the FCC formula apparently defeat the main purpose of the formula: to allow utilities to collect fair contributions to their expenses for maintaining and repairing

poles while using a fixed approach that does not create unnecessary litigation.

[CASE 06-E-1427 - Proceeding on Motion of the Commission to Determine Pole Attachment Rates for Municipal-Owned Poles, Notice Requesting Comments: Issued November 21, 2006]

7. **Oregon**

Source: Oregon Administrative Rules 860-28-0000 to 860-28-0310

Rate:

Oregon provides that pole attachment rates and other conditions of attachment generally be determined between the attacher and attachee utilities.

If the utilities cannot agree, a disputed pole attachment rental rate will be computed:

the pole cost x the carrying charge x the portion of the usable space occupied by the licensee's attachment

Pole Cost	The depreciated original installed cost of an average bare pole of the pole owner.
Carrying Charge	The percentage of operation, maintenance, administrative, general, and depreciation expenses, taxes, and money costs attributable to the facilities used by the licensee.
Usable Space	All the space on a pole, except the portion below ground level, the 20 feet of safety clearance space above ground level, and the safety clearance space between communications and power circuits. The minimum usable space occupied by a licensee's attachment is one foot. There is a rebuttable presumption that six feet of a pole are buried below ground level.

Rate Reductions and Sanctions

In 1999, the Oregon legislature enacted a stature mandating the Public Utility Commission to establish rules for rental rate reductions for responsible occupants and sanctions for occupants without contracts or permits, or that violate safety rules.

Duties of Pole Occupants

Except as provided (for government entity attachers or for service drops), a pole occupant attaching to one or more poles of a pole owner must

a. Have a written contract with the pole owner that specifies general conditions for attachments on the poles of the pole owner.

b. Have a permit issued by the pole owner for each pole on which the pole occupant has attachments.

c. Install and maintain the attachments in compliance with the written contracts.

d. Install and maintain the attachments in compliance with Commission safety rules.

Sanctions

For Having No Contract:
A pole owner may impose a sanction on a pole occupant that is in violation of the contract requirement. The sanction may be the higher of $500 per pole or 60 times the owner's annual rental fee per pole.

For Having No Permit:
A pole owner may impose a sanction on a pole occupant that is in violation of the permit requirement. The sanction may be the higher of $250 per pole or 30 times the owner's annual rental fee per pole.

For Violation of Other Duties:
A pole owner may impose a sanction on a pole occupant that is in violation of the terms of contract regarding installation or maintenance, or with the Commission's rules of safety. The sanction may be the higher of $200 per pole or 20 times the owner's annual rental fee per pole.

A pole owner shall reduce the sanction 60 percent if

a. the pole occupant complies with the contract requirements within 60 days of receipt of notice; or

b. within 30 days of its receipt of notice, submits to the pole owner a reasonable plan of correction, and thereafter, complies with that plan, if the pole owner accepts it, or with another plan approved by the pole owner.

If the pole occupant fails to comply within the time allowed, then the pole owner may sanction the pole occupant 1.5 times the amount otherwise due under these rules.

If the pole occupant has failed to meet the time limitations by 30 or more days, then the pole owner may sanction the pole occupant 2.0 times the amount otherwise due under these rules.

If the pole occupant has failed to meet the time limitation by 60 or more days, then the pole owner may request an order from the Commission authorizing removal of the pole occupant's attachments.

Rental Reductions
A licensee shall receive a rental reduction based on the formula presented above.

A pole owner may deny the rental reduction to a licensee, if either the pole owner or the Commission can show that

a. The licensee has caused serious injury to the pole owner, another pole joint-use entity, or the public resulting from non-compliance with Commission

safety rules and Commission pole attachment rules or its contract or permits with the pole owner.

b. The licensee does not have a written contract with the pole owner that specifies general conditions for attachments on the poles of the pole owner.

c. The licensee has engaged in a pattern of failing to obtain permits issued by the pole owner for each pole on which the pole occupant has attachments.

d. The licensee has engaged in a pattern of non-compliance with its contract or permits with the pole owner, Commission safety rules, or Commission pole attachment rules.

e. The licensee has engaged in a pattern of failing to respond promptly to the pole owner, Public Utility Commission Staff, or civil authorities in regard to emergencies, safety violations, or pole modification requests.

f. The licensee has engaged in a pattern of delays in payment of fees and charges due the pole owner.

8. **Utah**

Formula:
Rate per attachment space = (Space Used x (1 /Usable Space) x Cost of Bare Pole x Carrying Charge Rate)

Carrying Charge Rate	The percentage of a pole owner's depreciation expense, administrative and general expenses, maintenance expenses, taxes, rate of return, pro-rated annualized costs for pole audits or other expenses that are attributable to the pole owner's investment and management of poles.
Cost of Bare Pole	Can be defined as either *net cost* or *gross cost* (see note on page 28).
Gross Cost	The original investment, purchase price, of poles and fixtures, (excluding crossarms and appurtenances) divided by the number of poles represented in the investment amount.
Net Cost	The original investment, purchase price, of poles and fixtures, (excluding crossarms and appurtenances) less depreciation reserve and deferred federal income taxes associated with the pole investment, divided by the number of poles represented in the investment amount.
Usable Space	The space on a utility pole above the minimum grade level to the top of the pole, which includes the space occupied by the pole owner.
Unusable Space	The space on a utility pole below the usable space including the amount required to set the depth of the pole.

Rebuttable presumptions:

a. Average pole height equals 37.5 feet.

b. Usable space per pole equals 13.5 feet.

c. Unusable space per pole equals 24 feet.

d. Space used by an attaching entity:

1) An electric pole attachment equals 7.5 feet.

2) A telecommunications pole attachment equals 1 foot.

3) A cable television pole attachment equals 1 foot.

4) An electric, cable, or telecommunications secondary pole attachment equals 1 foot.

5) A wireless provider's pole attachment equals not less than 1 foot and is determined by the amount of space on the pole that is rendered unusable for other uses as a result of the attachment or the associated equipment. The space used by a wireless provider may be established as an average and included in the pole owner's tariff and standard contract.

Note:

A pole owner may use gross cost only when its net cost is a negative balance. If using the net or gross cost results in an unfair or unreasonable outcome, a pole owner or attaching entity can seek relief from the Commission.

9. **Washington**

As of 5/22/2002, the Washington Utilities and Transportation Commission has not issued rules defining a formula, as explicitly noted in Docket No. UT-003040, Revised Initial Order (In the Matter of U.S. West Communication), dated May 5, 2002: "The Commission has not adopted rules implementing its authority under chapter 80.54 RCW to regulate the rates, terms, and conditions of pole attachments."

In 1997, The Commission issue a Pre-Proposal Statement of Inquiry (CR-101, 7/10/1997) seeking comment regarding a proposed rulemaking that would adopt the FCC formula:

> The emergence of competition in the state utility market creates a need for an efficient and effective methodology for determining fair, consistent and effective rates for attachments to transmission facilities. The lack of a prescribed methodology creates uncertainty and unpredictability resulting in unnecessary burdens on the Commission and affected companies. The lack of rules also creates uncertainty as to whether Washington regulates pole attachment rates sufficiently to preempt Federal Communications Commission regulation of the subject. The adoption of rules implementing Chapter 80.54 RCW will alleviate these problems. It also will comply with the Commission's mandate under 80.54.060 to adopt rules, regulations and procedures relative to the implementation of Chapter 80.54. The

Commission is considering adopting the FCC methodology, which is found at 47 CFR §1404(g).

However, on November 10, 1999, the Commission closed the docket: “[t]his rule proposal has been delayed pending final action in a similar rulemaking before the FCC.”

Appendix B
Methods for Determining Pole Attachment Rates by Tennessee Pole Owners

The Communications Act of 1934, Section 224, as amended by the Telecommunications Act of 1996 governs pole attachments. The following definitions and provisions of the amended Act are available on the Federal Communications Commission website, http://www.fcc.gov/eb/mdrd/rules/pole.html.

61 FR 45618, Aug. 29, 1996, Sec. 1.1402 Definitions.

(a) The term utility means any person that is a local exchange carrier or an electric, gas, water, steam, or other public utility, and who owns or controls poles, ducts, conduits, or rights-of-way used, in whole or in part, for any wire communications. Such term does not include any railroad, any person that is cooperatively organized, or any person owned by the Federal Government or any State. [Emphasis added.]

(b) The term pole attachment means any attachment by a cable television system or provider of telecommunications service to a pole, duct, conduit, or right-of-way owned or controlled by a utility.

For the purposes of dealing with municipal electric providers and cooperatives the relevant law is 47 USC Sec. 253.

§253. Removal of barriers to entry

(a) In general
No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.

(b) State regulatory authority
Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.

(c) State and local government authority
Nothing in this section affects the authority of a State or local government to manage the public rights-of-way or to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of public rights-of-way on a nondiscriminatory basis, if the compensation required is publicly disclosed by such government.
[http://www.law.cornell.edu/uscode/, retrieved 12/7/2006]

A review of the case law of pole attachment regulation is beyond the scope of this study. The basic policies are

1. Pole attachments to poles owned by cooperatives and municipal service providers are not subject to FCC regulation and thus pole attachment rates are not required to conform to the FCC formula.
2. Municipal and cooperative-owners of poles must provide access to their poles by telecommunications, cable, and Internet service providers.
3. The rates charged by pole owners must be "fair and reasonable", publicly available, and set on a competitively neutral, nondiscriminatory basis.

The study has focused on current methods of determining pole attachment rates in Tennessee.

The first material provided below includes examples of the methods used by various pole owners and pole users as compared with the FCC formula.

Examples Provided by Pole Owners

Gross Pole Investment - Acct 364	$24,227,000
Depreciation Reserve - Acct 364	$5,081,018
Plant Investment - Acct 364 + 365 + 369	$50,285,170
Depreciation Reserve - Acct 364 + 365 + 369	$12,668,537
Number of Poles	52,967
A & G Expense - Accts 920 thru 931	$1,388,263
(Consider dollars taken out of these accounts through functional accounting)	
Net Plant Investment - Accts 101 + 107 less 108	$77,838,918
Deferred Taxes (This cell should equal zero for TVA Distributors)	0
Maintenance Expense - Acct 593	$2,146,981
Depreciation Rate of Acct 364	3.25%
Acct (408.1 + 409.1 + 410.1 + 411.4) - 411.1	$749,334
(Consider Including Gross Receipt Taxes = 5% of Power Cost)	0
Investment on Return (Authorized by Regulatory Authority)	10.37%

No Consideration has been given for attachments on transmission poles

	Cost of a Bare Pole as of XXXX, 200X	
1	Gross Pole Investment	$24,227,000
2	Depreciation Reserve	$5,081,018
3	Gross Plant Investment (Accounts 364, 365, 369)	$50,285,170
4	Net Investment (Poles)	$19,145,982
5	Net Investment (Bare Poles) L5*.85	$16,274,085
6	Number of Poles	52,967
7	New Cost of a Bare Pole	$307.25
	Carrying Charge Rate Factor	
1	Administrative Charge	1.78%
2	Maintenance Charge	5.71%
3	Depreciation Charge	4.11%
4	Taxes	0.96%
5	Return on Investment	10.37%
6	Total Carrying Charge Rate Factor	22.93%
	Administrative Charge	
1	A & G Expense	$1,388,263
2	Net Plant Investment - Deferred Taxes	$77,838,918
3	Administrative Charge	1.78%
	Maintenance Charge	
1	Maintenance Expense (593)	$2,146,981
2	Net Investment (Accounts 364,365,369 - Deferred Taxes)	$37,616,633
3	Maintenance Charge	5.71%
	Depreciation Charge	
1	Depreciation Rate	3.25%
2	Gross Pole Investment	$24,227,000
3	Net Pole Investment	$19,145,982
4	Depreciation Charge	4.11%
	Taxes	
1	Total Current and Deferred Taxes	$749,334
2	Net Plant Investment - Deferred Taxes	$77,838,918
3	Taxes	0.96%
	Return on Investment	10.37%

Calculation of Safe Space
using 40 inches or 3.33 feet

Telephone Companies

Total Safe Space		Percent as only attacher		Number of Attachers		Calculated Safe Space
3.33	x	66.09%	/	1	=	2.20
Total Safe Space		Percent as mult. attacher				
3.33	x	33.91%	/	2	=	0.56

Calculated Safe Space for Telephone Companies **2.76**

Cable Companies

Total Safe Space		Percent as only attacher		Number of Attachers		
3.33	x	40.47%	/	1	=	1.35
Total Safe Space		Percent as mult. attacher				
3.33	x	59.53%	/	2	=	0.99

Calculated Safe Space for Cable Companies **2.34**

Space Allocation	**Telephone**	**Cable**
Numbers of Attaching Parties	**2.34**	**2.60**
Space Occupied by Attaching Parties	**2.00**	**1.00**
Safety Space (not a part of FCC Formula)	**2.76**	**2.34**
Total Usable Space	**13.5**	**13.5**
Total Support Space	**24.0**	**24.0**

FCC Telecommunications Formula **(Two feet of attachment space) Telephone Attachment Rate**

Unusable Space	=	2 / 3	x	Unusable Support Space / Pole Height	x	Net Cost of Bare Pole / Number of Attachers	x	Carrying Charge Rate Factor		
Unusable Space	=	2 / 3	x	24 / 37.5	x	307.25 / 2.3391	x	0.2293		
12.86	=	0.667	x	0.64	x	131.3539	x	0.2293		

Usable Space	=	Space Occupied by Attachment / Total Usable Space	x	Total Usable Space / Pole Height	x	Net Cost of Bare Pole	x	Carrying Charge Rate Factor		
Usable Space	=	4.76 / 13.5	x	13.5 / 37.5	x	307.25	x	0.2293		
8.94	=	0.3526	x	0.36	x	307.25	x	0.2293		

Proposed Rate **21.80**

FCC Telecommunications Formula **(One foot of attachment space) Cable TV Attachment Rate**

Unusable Space	=	2 / 3	x	Unusable Support Space / Pole Height	x	Net Cost of Bare Pole / Number of Attachers	x	Carrying Charge Rate Factor		
Unusable Space	=	2 / 3	x	24 / 37.5	x	307.25 / 2.5953	x	0.2293		
11.59	=	0.667	x	0.64	x	118.3871	x	0.2293		

Usable Space	=	Space Occupied by Attachment / Total Usable Space	x	Total Usable Space / Pole Height	x	Net Cost of Bare Pole	x	Carrying Charge Rate Factor		
Usable Space	=	3.34 / 13.5	x	13.5 / 37.5	x	307.25	x	0.2293		
6.27	=	0.2474	x	0.36	x	307.25	x	0.2293		

Proposed Rate **<u>17.86</u>**

FCC Telecom Rate (Provided by Rural Electric Cooperative)

Attacher Responsibility Percentage	
Number of cable attachments	15828
Number of telecom attachments	11185
Number of co-op attachments	65352
Total attachments	92365
Total poles with nonowner attachments	65352
Average number of attachers/pole	1.4133462
Space occupied	1
Two-thirds	0.666667
Unusable space	24
Number of attaching entities	1.4
Pole height	37.5
Attacher responsibility percentage	**0.3285507**
Net Cost of a Bare Pole Calculation	
Gross distribution plant	87,737,761
Distribution plant accumulated depreciation	34,797,380
Distribution plant depreciation percentage	0.396606656
Gross pole investment (Acct. 364)	19,267,591
Accumulated depreciation for poles	7,641,655
Accumulated deferred income taxes	0
Net pole investment	11625936.16
Appurtances factor	0.85
Net pole investment allocable to attachments	9882045.739
Total number of poles	65,352
Net cost of a bare pole	**151.2125985**
. **Carrying Charge Calculation**	
Total general and administrative	1,577,537
Gross plant investment (electric)	87,737,761
Accumulated depreciation (Acct. 108 - Electric)	34,797,380
Accumulated deferred income taxes	0
Administrative carrying charge	0.029798369
Account 593	2,073,225
Pole investment in Accts. 364,365 & 369	33,944,391
Depreciation (poles) related to Accts. 364, 365 & 369	14,321,404
Accumulate deferred income taxes for 364, 365 & 369	0
Maintenance carrying charge	0.105652875
Gross pole investment (Acct. 364)	19,267,591
Net pole investment	11,625,936
Depreciation rate for gross pole investment	0.033
Depreciation carrying charge	0.053862046
Taxes (Accts. 408.1 + 409.1 + 410.1 + 411.4 - 411.1)	771,934
Gross plant investment (total plant)	87,737,761
Accumulated depreciation (Acct. 108)	34,797,380
Accumulated deferred income taxes (plant)	0
Taxes carrying charge	0.014581195
Applicable rate of return (default)	0.1125
Return carrying charge	0.1125
Total carrying charges	**0.316394485**
FINAL RATE CALCULATION	
Attacher responsibility percentage	**0.328550714**
Net cost of a bare pole	**151.2125985**
Total carrying charges	**0.316394485**
Pole attachment rate for telecommunications	**15.72**

Provided by Electric Cooperative

FORMULAS FOR CATV POLE RENTAL RATE RECOMMENDED BY THE TVPPA URBAN JOINT USE COMMITTEE:

1. Formula, Statement Form:

$$\text{CATV Cost} = \frac{\text{CATV Allocated Space} + \frac{\text{Safety Space}}{\text{Number of Communication Companies}} + \frac{\text{Unallocated Space}}{\text{Total Number of Joint Users}}}{\text{Length of a Normal Joint use Pole}} \times \text{Annual Costs of a Normal Joint Use Pole}$$

2. Formula for Two Party Pole:

$$\text{CATV Cost} = \frac{1 + \frac{3.33}{1} + \frac{29.67}{2}}{40} \text{ X Annual Costs} = 0.48 \text{ X Annual Costs}$$

3. Formula for Three Party Pole:

$$\text{CATV Cost} = \frac{1 + \frac{3.33}{2} + \frac{25.67}{3}}{40} \text{ X Annual Costs} = 0.28 \text{ X Annual Costs}$$

DEFINITIONS OF FORMULA ITEMS:

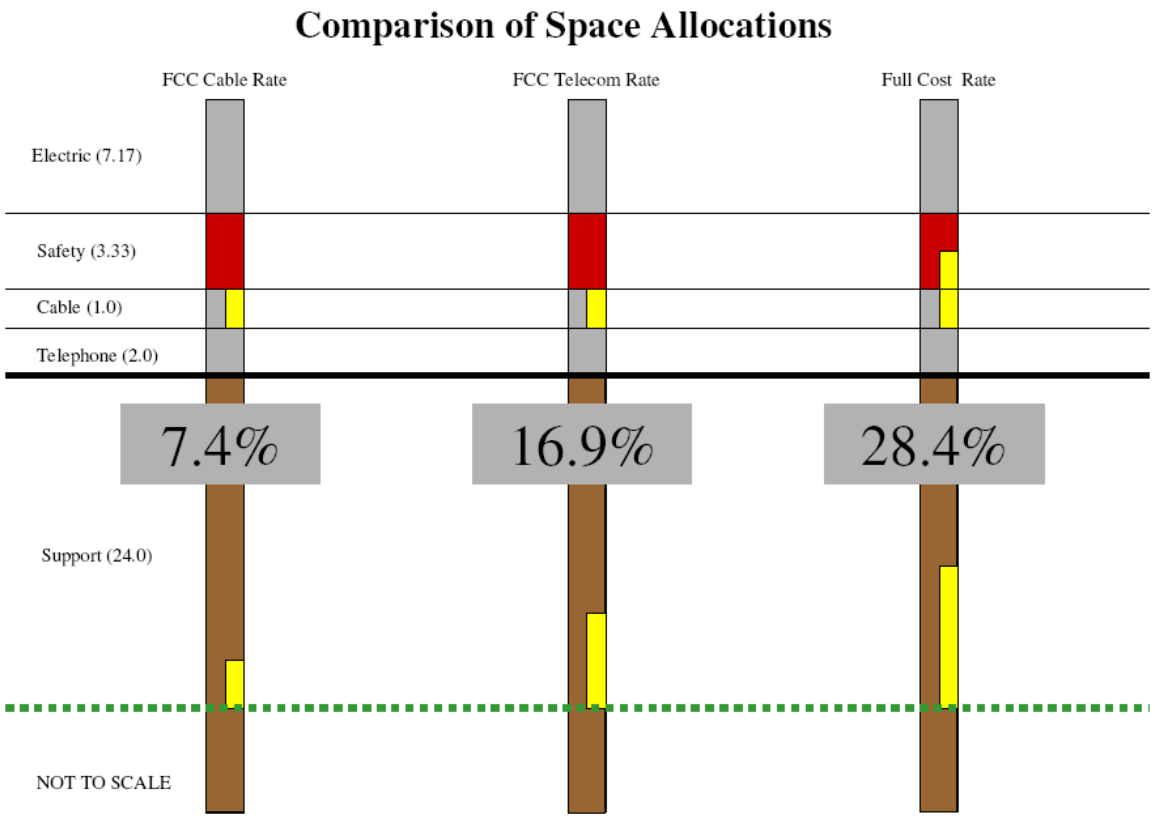
1. Normal Joint Use Pole = 40'
2. CATV Allocated Space = 1'
3. Safety Space = 40" = 3.33'
4. Unallocated Space:
   2 party pole (CATV & Electric) = 29.67' (23.67' above ground & 6' below ground)
   3 party pole = 25.67' (19.67' above ground & 6' below ground)
5. Telephone Allocated Space = 4'

Describe Methods Used by Municipal Electric Power Providers other than the FCC Formula

Response: The primary methods used by municipal electric power providers to establish rates include

- **Cost Based Rate Analysis:** While TMEPA systems strongly disagree with the unfavorable allocation factor under the FCC cable rate, several municipal systems do utilize the components of the FCC analysis to estimate their annual costs of pole ownership. These systems then use a different allocation factor that more evenly spreads the costs of ownership among all attaching parties. A drawing showing the allocation factors under the "FCC cable rate," the "FCC telecommunications rate," and a more equal "full cost" allocation of space is attached as Exhibit 7 (See below.). The "full cost" allocation factor provides for an equal sharing of support space, an allocation of safety space among CATV and telecommunications attachers (on the theory that the "safety" space protects the CATV and telecommunications workers, and not the qualified electric system workers), and an allocation of usable space. For use of a three party pole, the cable company would be allocated 28.4% of the annual carrying costs (assuming a hypothetical 37.5 foot pole). While not to scale, Exhibit 7 attempts to show in yellow the relative allocation of pole space (and, therefore cost) to a cable company. The allocations for a two party pole would be different. In addition to these approaches, other systems have also developed their own cost-based rate calculations.
- **Avoided cost analysis:** While TMEPA is unaware of any systems that charge pole users those users' full avoided cost of pole ownership, a simple calculation outlined more fully in the 2003 Report and the 2005 Presentation illustrates the significant avoided cost savings that pole users are able to achieve by attaching to TMEPA systems' poles. One simple calculation yielded a $72.00 per pole avoided cost just to illustrate the point.
- **Indexing:** Several municipal systems routinely adjust their pole attachment rates using the CPI or some other indexing mechanism.
- **Comparability:** Some municipal systems have attempted to more closely align their CATV attachment rates with those charged to telecommunications providers. Some of the more significant increases in CATV attachment rates are often associated with narrowing the historic gap between CATV rates and telecommunications rates.
- **Negotiation:** Many times, whether or not a cost-based rate analysis is performed, systems will simply negotiate periodic increases with attaching parties.

Exhibit 7


Comparison of Space Allocations
FCC Cable Rate
FCC Telecom Rate
Full Cost Rate
Electric (7.17)
Safety (3.33)
Cable (1.0)
Telephone (2.0)
7.4%
16.9%
28.4%
Support (24.0)
NOT TO SCALE

Tennessee Electric Cooperative Association

Please describe the methodology that your cooperative uses to determine pole attachment rates, including any automatic increases.

- The FCC Telecommunications formula including the 40 inches of safe space. Reviewed annually. Two feet allocated for telephone attachment. One foot allocated for CATV attachment.
- We attempted to allocate costs for a couple of years and noted they approximated a certain percentage of our average cost for a 40-foot pole. We use this to propose a rate each year to CATV. We use TVPPA joint use rates for telephone.
- CATV rates originally based on formula recommended by TVPPA, however rates have not been increased to reflect current costs.
- Phone company rates are determined in conjunction with TVPPA and BellSouth. These groups negotiate the rate, which we then implement.
- Contract formula for telephone – then negotiate actual rates.
- Weighted Average Cost of Pole x Weighted Average Pole Allocation Factor x Annual Cost Factor.
- We use outside negotiators who use calculation methods based on Utility/Telecommunications Acts.
- We look at pole ownership costs. We do not have any automatic increase mechanism in place. We have not increased our rates since 2003.

If your cooperative does not use a rate methodology, please describe the process used in determining rates.

- Telephone rates based on TVPPA rates that are agreed for use with BellSouth.
- Tennessee Valley Public Power Association Rate.
- Cooperative uses the TVPPA calculated TPI (telephone plant index) for BellSouth and charges the previous years BellSouth rural rate for a 35’ pole for all other telephone companies. The CATV rate is increased 3% annually per joint-use agreements.
- Cable rates are normally negotiated on the front end of the contract, then the contract calls for automatic increases.

Appendix C

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE ADOPTION OF A STANDARD METHODOLOGY FOR ESTABLISHING RATES FOR CATV POLE ATTACHMENTS	))))	ADMINISTRATIVE CASE NO. 251

O R D E R

On petitions of regulated telephone utilities (Case No. 8040) and regulated electric utilities (Case No. 8090), which were consolidated, the Commission on August 26, 1981, asserted jurisdiction over the rates, terms and conditions for pole attachment space made available to cable television ("CATV") systems by telephone and electric utilities. Tariffs ordered to be filed were rejected by the Commission, which by its Order of October 28, 1981, established this administrative case to determine a standard methodology for calculating rates for pole attachment space.

Hearings were held on February 2, 3, and 4, 1982, for direct testimony. Rebuttal testimony was prefiled, and witnesses subjected to cross-examination on March 18, 1982, with final oral argument on March 25, 1982.

Parties of record were Louisville Gas & Electric Company, South Central Bell Telephone Company, Union Light, Heat and Power Company, Cincinnati Bell, Inc., General Telephone Company of

Kentucky, Kentucky Power Company, Continental Telephone Company, Echo Telephone Company (now Allied Telephone Company of Kentucky), Kentucky Utilities Company, Kentucky Cable Television Association, Consumer Protection Division of the Attorney General's Office, Kentucky Association of Electric Cooperatives, and Duo County Telephone Cooperative. Others who submitted information or testimony were Thacker-Grigsby Telephone Company, Foothills Rural Telephone Cooperative Corporation, Inc., Peoples Rural Telephone Cooperative Corporation, Inc., Ballard Rural Telephone Cooperative Corporation, Inc., and Logan Telephone Cooperative, Inc.

DISCUSSION

In its Order of August 26, 1981, the Commission directed regulated utilities which provide CATV pole attachment services to file tariffs concerning the provision of such service. The tariffs which were filed proposed rates, terms and conditions which varied widely, and in some cases did not afford CATV operators rights equal to those afforded other utility customers. For these and reasons of convenience, the Commission determined that a uniform methodology should be established by which fair, just and reasonable pole attachment rates could be determined.

At the hearings on methodology, it developed that some minimum equitable standards for terms and conditions would be required to assure CATV operators that to the extent possible they would have the same rights as other utility customers.

First, as a tariff customer, each qualified CATV operator must have the right to receive service (make pole attachments), just as a telephone or electric customer has the right to receive service. Similarly, the CATV operator must be allowed to remain a customer by observing the usual customer obligations, such as payment of bills and conformance to applicable safety standards.

Objectionable Provisions in Agreements

CATV operators assert that the present practice of some utilities in requiring bonds for satisfactory construction practices and payment of billings imposes restrictions more burdensome than those imposed on other utility customers. However, while the CATV operator will be a utility customer, it must be recognized that it forms a separate classification of customer, with different rights and responsibilities. The imposition of a bonding requirement is not unlike the deposit requirement for other utility customers, except that the CATV operator climbs and works on poles, and makes pole attachments, a situation uniquely different from that of utility customers merely receiving electric or telephone service. For this reason, the Commission does not find it discriminatory to allow a bonding requirement to assure safe and adequate construction and operating practices on the part of the CATV operator, especially during the initial phases of construction and operation. However, the Commission will expect that the size of the bond or

other required assurances will be reasonably related to the size and scope of the proposed CATV system, and will be reduced or lifted after the operator has proven itself a reliable utility customer.

The CATV operators complained of the charges imposed by the utilities for periodic inspections of the attachments to the poles, but generally were not dissatisfied with "make-ready" charges determined by agreement of the parties after a "walk-through" inspection of the proposed CATV system by representatives of the operator and the utility. The Commission recognizes the necessity for periodic inspections of utility plant for safety and other reasons, and Commission regulations (807 KAR 5:006, Section 22) require them, without any provision for additional payment by customers. Of course, when substandard installations are found which are not created by the utility but by the CATV operator, the utility should charge the CATV operator for the cost of correcting them, plus some contribution toward administrative costs and labor and materials costs for making such corrections.

Similarly, since the CATV operator is making the attachments, and the utility must rely, between inspections, on voluntary reporting by such operator, it will be considered reasonable for the utility to charge the operator (for each connection theretofore unreported) an amount equal to the rate that would have been due had the installation been made the day after the last previous required inspection.

CATV operators argue that some utilities have unfairly imposed provisions in their agreements that required the operators to reimburse the utilities for changes made after the initial CATV attachments have been made, when such changes were not required by CATV operations. They cite some instances when, after initially allowing CATV attachment to their poles, the utilities changed the use of the pole and required the CATV operator to pay for the changes.

The Commission agrees that a number of these provisions and charges may have been unfair or unnecessary. When a utility subsequently requires a change in its poles or attachments for reasons unrelated to CATV operations, the CATV operator should be given notice of the changes required (e.g., relocation to another pole), and sufficient time to accomplish the CATV-related change. Normally, 48 hours will be sufficient time for advance notice of a change, unless an emergency requires a shorter period. If the CATV operator is unable or unwilling to meet the utility's time schedule for such changes, the utility may do the work and charge the CATV operator its reasonable costs for performing the change of CATV attachments.

Also, the CATV operators argue that a number of the agreements imposed on them for pole attachments have included "hold harmless clauses" and have required them to maintain insurance coverage against their negligence and that of the utility. The Commission is of the opinion that such requirements generally

are excessive. Except for compelling reasons requiring additional protective provisions, the Commission will approve only tariff provisions which require insurance or a bond (at CATV's option) to protect the utility and the public against the actions of the CATV operator.

CATV Operators Are Not Joint Users

Considerable argument, and some evidence, was offered on behalf of the CATV operators that they have been treated unfairly by the utilities in not being accorded many of the rights granted each other by the utilities in their joint use arrangements. This issue is resolved by the decision of this Commission to treat CATV operators as customers of the utilities, with concomitant customer rights. CATV operators do not argue that they should be allowed to construct pole line systems of their own to share with the regulated utilities under typical joint use arrangements, and we see no reason why they should. Since they have no poles to "share," they need not be offered terms equivalent to those in prevailing joint use agreements between utilities both of which own and share poles.

Methodology

The CATV operators contend that the FCC methodology should be adopted by this Commission. We do not agree. While the FCC methodology purports to recover for the utility its incremental

cost of providing pole attachment service, it does not provide for the allocation of the utility's full cost of providing such service among all its classifications of customers. This Commission cannot accept a formula which allocates costs so unevenly.

The Commission recognizes, as recommended by the CATV operators and most of the utilities represented at the proceeding, that the formula should be simple and easily applied. Further, the formula should produce a fair, just and reasonable rate, based on the fully allocated costs of the utility in furnishing pole attachment services.

Ideally, the various cost factors needed to apply the formula should be readily available public information, such as that disclosed in the utility's required annual reports to the Commission or other public agencies. When this is not the case, we find that each utility shall file with its proposed tariffs the source and justification for cost factors used in applying the formula to compute its rate to the CATV operator.

The Commission has determined that the methodology shall be (1) the embedded cost of an average bare pole of the utility of the type and size which is or may be used for the provision of CATV attachment (2) multiplied by an annual carrying charge, and (3) this product multiplied by the percentage of usable space used for CATV pole attachments.

Bare Pole Costs

In determining the embedded cost of a bare pole, the Commission finds that poles less than 30 feet or more than 45 feet long are used so infrequently for CATV purposes that they should be excluded from the calculation. Cross arms, anchors, guy wires, grounds and other appurtenances not installed for CATV purposes will be excluded to establish the cost of a bare pole.

South Central Bell used 78 percent of its gross pole accounts as a "bare pole factor" to exclude investment attributable to appurtenances, i.e., cross arms, guys, anchors, etc. CATV's testimony was that 85 percent of pole accounts was an accepted industry standard for bare poles, which standard includes investment in anchors and guy wires and excludes all other appurtenances. General Telephone has also used an 85 percent factor, but has testified that this factor excludes "cross arms, anchors and other fixtures," which appears inconsistent with the testimony of other parties.

Therefore, for telephone utilities the Commission finds that 22 percent of the utility's pole account consists of appurtenances and should be excluded.

For electric utilities, the cost of major appurtenances such as cross arms can be specifically identified in sub-accounts and excluded, but lesser appurtenances such as aerial cable clamps, pole top pins, and ground wires are not segregated in the basic

pole accounts. Kentucky Power offered the only specific evidence on ground wire costs, for which it adds $12.41 to the pole accounts, and estimated that 8.7 percent of the unsegregated pole accounts represents lesser appurtenances. It was acknowledged generally by CATV operators and the telephone utilities that an exclusion of 15 percent for pole appurtenances would be reasonable, but this percentage did not include the cost of anchors.

Consistent with our finding that 22 percent of the utility's pole account is a reasonable exclusion for telephone utilities, and that the ratio of the cost of anchors to the basic pole accounts should not vary significantly between telephone and electric utilities, the Commission finds that an adjustment of 15 percent and a deduction of $12.50 per ground will reasonably approximate the cost of an average bare wooden electric utility pole.

Each utility must determine its weighted average cost of two-user and three-user poles. For telephone utilities, the average cost of a two-user pole will be assumed to be the weighted average cost of all 30-foot and 35-foot poles, and for a three-user pole, the weighted average cost of 40-foot and 45-foot poles. For electric utilities, the average cost of a two-user pole will be assumed to be the weighted average cost of 35-foot and 40-foot poles, and for a three-user pole, the weighted average cost of 40-foot and 45-foot poles. Each of these averages must then be multiplied by the bare pole factors stated herein.

Annual Carrying Charge

Having determined that the CATV operator will be considered a customer of the utility, the Commission finds that such customers should be required to pay their equitable share of all the utility's costs in providing service.

CATV operators argue that certain costs of the utility have no relationship to the services provided to them such as directory advertising, insurance and administrative overhead. However, no classification of utility customers can or should be allowed to pick and choose the categories of expense to which it will be subject.

A representative list of items to be included in computing the annual carrying charge includes operation and maintenance, general administrative expenses, depreciation, property or ad valorem taxes, income taxes (where applicable), gross receipts taxes and cost of money.

There should be included in the "cost of money" factor a reasonable amount representing a return on the utility's investment in the poles. For convenience and certainty of computation, the Commission finds that this return should be equal to the return on investment (or margin) allowed in the utility's last rate case.

Usable Space

Three distinct situations arise with respect to calculation of usable pole space: poles with only telephone and CATV connections, poles with only electric and CATV connections, and poles with all three connections.

In the first case, the Commission concludes that poles 30 and 35 feet long are commonly used, and that an average length for convenience of calculation would be 32.5 feet. Electric and CATV connections are commonly made on 35-foot and 40-foot poles, and therefore a 37.5-foot average pole will be reasonable for computation of the charge for that pole use. Poles with three users (telephone, electric, and CATV) are commonly 40 feet and 45 feet long, with an average length of 42.5 feet. An equal distribution of the pole population and utilization would produce a composite average pole of 37.5 feet in length. The Commission notes that an average pole length of 37.5 feet was supported by CATV testimony.

All parties have agreed that CATV operators should be responsible for the use of one foot of the usable space on poles.

When a telephone and CATV attachment occupy a single pole the amount of usable space will be calculated as if it were a 32.5-foot pole. It will be assumed that the pole is buried six feet in the ground. There was much testimony concerning the height of the lowest attachment. Neither the 18 feet of CATV nor the 21 feet of some of the utilities appears to be realistic. An

18-foot attachment would not allow for sag in those places where safety requirements demand 18 feet of clearance, and a 21-foot attachment would be unnecessarily high for most installations. CATV should not be penalized for connections that telephone utilities have placed unnecessarily high on their poles, but neither will this Commission assume that any connections are made so low as to produce violations of the National Electric Safety Code ("NESC"). Therefore, the Commission finds that an average height of the lowest connection on the pole of 20 feet is reasonable, and will allow for adequate clearances for cable spans. The top foot of a pole of this two-user configuration is not normally used.

Assuming the average two-user (telephone and CATV) pole of 32.5 feet in length, less 6 feet buried, 20 feet to the lowest attachment, and a foot of unused space at the top, there would be 5.5 feet of usable pole space. The CATV operator must be responsible for 1 foot. (1/5.5 or .1818.)

The typical two-user electric and CATV pole is assumed to be an average of 37.5 feet. NESC regulations for poles on which high voltage electrical current is carried require a 40-inch clearance between the lowest electrical conductor and the highest communications conductor. There was some evidence that on occasion the electric utilities have used a small portion of the safety clearance space for electrical appurtenances such as transformers. Similarly, the CATV operators have pointed to

occasional use of the top foot of the pole by electrical utilities as an argument that this space should be included in "usable space" for all poles. To take these situations into account, the Commission finds that it is reasonable to assign the top foot of the pole as usable space by the electric utility, while retaining the integrity of the NESC-required 40-inch clearance as non-usable space in situations involving the electric utility.

Assuming the typical two-user electric and CATV pole of an average 37.5 feet in length, less 6 feet buried, 20 feet to the lowest attachment, and 3.33 feet required safety space, there would be 8.17 feet of usable pole space. The CATV customer must be responsible for 1 foot. (1/8.17 or .1224.)

Assuming the typical three-user pole of 42.5 feet in length, less 6 feet buried, 20 feet to the lowest attachment, 3.33 feet required safety space, there would be 13.17 feet of usable pole space. The CATV customer must be responsible for 1 foot. (1/13.17 or .0759.)

In summary, the Commission finds that the use to which a pole is subjected will determine the appropriate factors in computing the rate to be charged the attaching CATV operator.

The telephone utility with a two-user situation (telephone and CATV), should take its weighted average cost of 30-foot and 35-foot poles, multiplied by its bare pole factor of 78 percent, multiplied by its annual carrying charges, and finally multiplied

by the appropriate usage factor of .1818 to arrive at an annual pole charge for CATV attachments for such use.

The electric utility with a two-user situation (electric and CATV), should take its weighted average cost of 35-foot and 40-foot poles multiplied by its bare pole factor of 85 percent, less $12.50 per ground, multiplied by its annual carrying charges, and finally multiplied by the appropriate usage factor of .1224 to arrive at an annual pole charge for CATV attachments for such use.

Finally, in the case of the three-user pole, the utility should take its weighted average cost of 40-foot and 45-foot poles, multiplied by its bare pole factor [85 percent for electric (less $12.50 per ground) and 78 percent for telephone utilities], multiplied by its annual carrying charges, and finally multiplied by the appropriate usage factor of .0759 to arrive at an annual pole charge for CATV attachments for such use.

Anchor Attachments

Much testimony was offered by CATV operators that anchor costs be included in pole costs. However, since CATV operators generally have the option of installing their own anchors or utilizing an existing anchor previously installed by the utility, it would be inappropriate to include a charge for anchor usage as a part of the pole attachment costs. When anchors of the utilities are used, the Commission finds that a fully allocated portion of the utility's cost for such anchors should be identified and paid for separately.

The method should be essentially the same as for pole attachments, being (1) the embedded cost of anchors, multiplied by (2) annual carrying charges, multiplied by (3) the appropriate usage factor. When a utility has recorded its embedded cost of anchors, that figure should be used. In the absence of such information, it is reasonable to assume that a utility's cost development of anchors parallels the cost development of poles used by CATV. Therefore, the embedded investment for an anchor should equal the average current investment for a typical anchor, multiplied by the ratio of the average embedded investment for 30- to 45-foot poles to the average current costs for 30- to 45-foot poles. The annual carrying charge factors should be the same as for poles. Finally, as to the usage factor, CATV should be responsible for one-half of the costs for two-user anchors, and one-third of the cost of three-user anchors.

Conduit

Very little attention was paid at the hearings to charges for sharing conduit space. South Central Bell maintained that conduit space should be charged at a rate based on current costs rather than embedded costs because once wire is placed in conduit, that portion of the conduit is no longer available for any other use by the utility. Hence, current conduit costs more nearly reflect the utility's costs for sharing this type of installation.

Although not offered in evidence by any of the parties, the Commission takes official notice that the National Electric Code ("NEC") sets forth the maximum allowable fill percentage for wire placed in the various sizes of conduit.

Therefore the Commission finds that the appropriate charge for conduit use by CATV operators should be (1) the current cost per foot for the type and size of conduit used, divided by (2) the NEC-specified maximum allowable percentage fill for the size of conduit used, multiplied by (3) the current annual charge factors developed for pole attachments herein.

Findings and Order

The Commission, after considering the matter and all evidence of record and being advised, finds that:

(1) The CATV operator, as a user of utility poles for attachment of its cables, is a customer of the regulated utility pole owner;

(2) As a customer of the regulated utility, the CATV operator should be obligated to pay its share of the fully allocated costs of providing service to it;

(3) The rights and obligations of the CATV operator and the regulated utility are as set forth herein;

(4) The method for determining the applicable rates and charges are as set forth herein;

(5) The Commission will allow deviations from the mathematical elements found reasonable herein only when a major

discrepancy exists between the contested element and the average characteristics of the utility, and the burden of proof should be upon the utility asserting the need for such deviation;

(6) Each utility should file tariffs for CATV pole attachments and charges conforming to the principles and findings in this Order; and

(7) On and after the effective date of the tariffs required herein, all existing pole attachment agreements should be superseded.

IT IS THEREFORE ORDERED that within 45 days of the date of this Order electric and telephone utilities providing or proposing to provide CATV pole attachments shall file with the Commission tariffs in the form prescribed by the Commission's regulations, according to the principles and findings in this Order.

Done at Frankfort, Kentucky, this 12th day of August, 1982.

PUBLIC SERVICE COMMISSION

Chairman

Vice Chairman

Commissioner

ATTEST:

Secretary